

09/827,505

12056-2

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-10 (canceled)

Claim 11 (currently amended): A method of producing high density arrays of target substances comprising sectioning a bundle of target-strands that has been stabilized by embedding the bundle in a material;

where the target-strands comprise the target substances;

where the location of each target substance within the bundle is noted in a database;

and,

where the sectioning results in a high density array.

Claim 12 (original): The method of claim 11, where the sectioning is performed with a cutting device selected from the group consisting of a microtome, laser, saw, and hot wire.

Claim 13 (previously presented): The method of claim 11, where the bundle sectioned comprises a target-strand selected from the group consisting of a cast rod of target substance, a target substance absorbed onto a glass fiber, a target substance absorbed onto a silk thread, a target substance attached to a polymer fiber, a target substance embedded in a porous rod, a target substance coated on a metal wire, a target substance contained within a matrix of gelatin, a line of a target substance drawn on a glass slide, a line of a target substance drawn on a membrane, and a target substance attached to the inside of a tube.

Claim 14 (original): The method of claim 11, where at least one of the target substances comprising the sectioned bundle of target-strands is selected from the group consisting of

09/827,505

12056-2

DNA, RNA, peptides, proteins, glycoproteins, lipoproteins, carbohydrates, lipids and immunoglobulins.

Claim 15 (previously presented): The method of claim 11, where the sectioning is performed such that the resultant high density array has a thickness of from about 0.1 μm to about 1.0 mm.

Claim 16 (original) The method of claim 11, where the sectioning is performed such that the resultant high density array has a thickness of greater than 50 μm .

Claim 17 (canceled)

Claim 18 (currently amended): The method of claim 17, where the [stabilizing step is performed by embedding the bundle in a] material is selected from the group consisting of epoxy, polypropylene and polystyrene.

Claim 19 (original): The method of claim 11, further including incorporating a material other than the target-strands into the bundle.

Claim 20 (canceled)

Claim 21 (withdrawn): The method of claim 11, where at least one of the target substances comprising the sectioned bundle of target-strands is selected from the group consisting of zinc, sulfur and gold.

09/827,505

12056-2

Claim 22 (withdrawn): The method of claim 11, where at least one of the target substances comprising the sectioned bundle of target-strands is selected from the group consisting of viruses, chromosomes, mitochondria, prokaryotic cells, archaeobacteria and eukaryotic cells.

Claim 23 (withdrawn): The method of claim 11, where at least one of the target substances comprising the sectioned bundle of target-strands is selected from the group consisting of ceramics, glasses, plastics, polymeric materials, wood, fabric and concrete.

Claim 24 (withdrawn): The method of claim 11, where at least one of the target substances comprising the sectioned bundle of target-strands is selected from the group consisting of semiconductors and superconductors

CI
Claims 25-27 (canceled)

Claim 28 (previously presented): The method of claim 19, where the material is a secondary enzyme.

Claim 29 (withdrawn): A method of interrogating a high density array, comprising producing a high density array according to the method of claim 11 and then interrogating the array.

Claim 30 (withdrawn): The method of claim 29, where interrogating comprises visual inspection.

Claim 31 (withdrawn): The method of claim 29, where interrogating comprises chemical deposition.

09/827,505

12056-2

Claim 32 (withdrawn): The method of claim 29, where interrogating comprises electrical probing.

Claim 33 (withdrawn): The method of claim 29, where interrogating comprises magnetic sensing.

Claim 34 (withdrawn): The method of claim 29, where interrogating comprises mechanical sensing.
